

**REMARKS**

The Reply, filed in response to the Office Action mailed April 29, 2008, is believed to fully address each and every issue raised in the Action. Favorable reconsideration of the application is respectfully requested.

Applicants thank the Examiner for accepting the drawings filed on September 27, 2006.

Applicants further extend their appreciation to the Examiner for acknowledging the claim of priority based on foreign application as well as the receipt of the certified copy of the priority document.

**Claim Status**

Upon entry of the amendment, which is respectfully requested, claims 3-5 will be pending in the application.

Claims 1-2 are canceled without disclaimer or prejudice.

Claim 4 is amended to rewrite it into an independent form and remove multiple dependency. Additional support for amended claim 4 may be found by the disclosure, for example, at page 12, line 8 - page 13, line 2. Claim 5 is newly added and supported by original claim 4.

**Response to Rejections Under 35 U.S.C. § 102(b)**

In the Office Action, Claims 1, 2 & 4 stand rejected under 35 U.S.C. 102(b) as being anticipated by Kusumoto *et al.* U.S. Application Publication No. 2004/0029007 (“Kusumoto”).

Kusumoto is relied upon to teach a non-aqueous electrolyte battery comprising an oxide containing mainly iron and sodium (paragraph 20). Regarding the limitation “exhibiting a value of 2 or less obtained by dividing the XRD peak intensity corresponding to an interplanar spacing of 2.20 Å by the XRD peak intensity corresponding to an interplanar spacing of 5.36 Å,” the

Office alleges that the limitation is inherently taught by Kusumoto, because Kusumoto teaches the identical electrode material.

Regarding claim 2, the Office alleges that Kusumoto teaches a cathode material that is  $\text{NaFeO}_2$ , embracing the formula  $\text{NaFe}_{1-x}\text{M}_x\text{O}_2$  when  $x=0$  of the present invention.

With respect to claim 4, the Office alleges that Kusumoto teaches that the active material is employed in a non-aqueous electrolyte secondary battery.

In the Office Action, claims 1, 2 and 4 also stand rejected under 35 U.S.C. 102(b) as being anticipated by Takeda *et al.*, Materials Research Bulletin, Vol. 29 (“Takeda”).

Takeda is relied upon to teach a non-aqueous electrolyte battery comprising an oxide containing mainly iron and sodium. The Office asserts that the limitations with respect to the electrode material having a hexagonal crystal structure, and exhibiting a value of 2 or less obtained by dividing the XRD peak intensity corresponding to an interplanar spacing of 2.20 angstrom by the XRD peak intensity corresponding to an interplanar spacing of 5.36 angstrom, is considered an inherent property of the cathodic material as taught by Takeda, because Takeda teaches the same electrode material as claimed in the instant application.

Regarding claim 2, the Office alleges that the cathode material is  $\text{NaFeO}_2$  taught by Takeda embraces the claim of the instant application, which recites the formula  $\text{NaFe}_{1-x}\text{M}_x\text{O}_2$  when  $x=0$ .

With respect to claim 4, the Office alleges that Kusumoto teaches that the active material is employed in a non-aqueous electrolyte secondary battery.

Applicants respectfully disagree.

Without conceding the rejections, Applicants cancel claims 1 and 2 merely in order to advance the prosecution of the application and amend claim 4. Therefore, rejections of claims 1 and 2 are rendered moot by the amendment.

Regarding claim 4 (and new claim 5), Applicants respectfully submit that Kusumoto or Takeda fails to teach a sodium secondary battery which comprises sodium ions as charge carriers as well as having features defined in the current claims 4 and 5.

Therefore, the rejections are believed to be unsustainable and their withdrawal is respectfully requested.

**Response to Rejection Under 35 U.S.C. § 103**

In the Office Action, claim 3 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Takeda. The Office relies on Takeda to argue that a mixture of an iron oxide and sodium oxide compounds is heated at 600° to 700°C to produce NaFeO<sub>2</sub>.

The Office admits that Takeda does not expressly disclose heating the sodium-iron compound in an inert atmosphere. It appears that the Office's position is that it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to heat the sodium-iron compound of Takeda in an inert atmosphere in order to obviate reactivity with oxygen, as the skilled artisan recognizes that oxygen and impurities in the air may react with the compounds.

Applicants respectfully do not agree with the Office's position.

The Office fails to establish *prima facie* obviousness rejection, because the rejection does not discuss the limitation “wherein the mixture is heated in an inert atmosphere in the temperature range of lower than 100°C in the course of rising of the temperature” of claim 3.

Takeda fails to teach the limitation.

The Office further fails to provide any reason why one skilled in the art would be motivated to modify the teaching of Takeda, which fails to teach the above limitation, to fill the gap with reasonable expectation of success.

Accordingly, it is believed that the rejection is not sustainable and its withdrawal is respectfully requested.

### CONCLUSION

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

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